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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,237	03/29/2004	Chul-Ho Bac	678-1304 (P11427)	2192

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EXAMINER	
CUTLER, ALBERT H	

ART UNIT	PAPER NUMBER
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/812,237	BAE, CHUL-HO	
	Examiner	Art Unit	
	Albert H. Cutler	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to application 10/812,237 filed on March 29, 2004. Claims 1-9 are pending in the application and have been examined by the examiner.

Information Disclosure Statement

2. The Information Disclosure Statement (IDS) mailed on January 18, 2005 was received and has been considered by the examiner.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "A1" has been used to designate both the horizontal axis of rotation and the vertical axis of rotation in figure 3. Please change one of these characters to "A2" as outlined in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of

an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 1, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee(US 2004/0198433) in view of Chambers et al.(US 2005/0014527).

Consider claim 1, Lee teaches:

A camera lens assembly mounted in a portable wireless terminal(see figures 1-7), comprising:

a first lens housing(330, figure 3) rotatably attached to the portable wireless terminal(figures 1 and 2) so that the first lens housing(330) can be rotated about a first rotating axis extending in one direction(See figures 1 and 2. The axis of rotation is illustrated. See paragraphs 0032, 0033 and 0042.); and

a second lens housing(350) attached to the first lens housing(330, paragraph 0033), the second lens housing having a camera lens mounted therein(paragraph 0034).

However, Lee does not explicitly teach that the second lens housing is rotatably attached so that the second lens housing can be rotated about a second rotating axis extending perpendicularly to the first rotating axis.

Chambers et al. is very similar to Lee in that Chambers et al. teach of a pop-out lens housing(200, figures 1-3) analogous to the pop-out lens housing(300, figure 2) taught by Lee. Chambers et al. also similarly teach that the lens housing(200) can be mounted on the side of the camera(paragraph 0021). Likewise, Chambers et al. is similar in that the lens housing(200) can rotate about an axis of rotation extending out from the camera(see figures 1, 2a and 2b).

However, in addition to the teachings of Lee, Chambers et al. teach the second lens housing(200) is rotatably attached(figure 3) so that the second lens housing(200) can be rotated about a second rotating axis extending perpendicular to the first rotating axis(paragraph 0024).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to attach the second lens housing taught by Lee rotatably, so

as to rotate about a second axis perpendicular to the first axis of rotation as taught by Chambers et al. for the benefit of creating a more versatile device which can be flexibly used for different applications and services in digital photography(Chambers et al., paragraph 0007)..

Consider claim 7, and as applied to claim 1 above, Lee further teaches:

The assembly as set forth in claim 1, wherein the second lens housing(350) further has a though-hole formed at an outer circumference thereof(The outer circumference(i.e. the circumference on the outer-most portion of the second lens housing, away from the portion with the camera lens) is where the through-hole is formed.), the though-hole being placed in the first lens housing, and wherein the camera lens has a flexible printed circuit(391) extended from one end thereof(see figures 3 and 4), the flexible printed circuit(391) passing through the though-hole and the first lens housing(350) and then being drawn out from the other end of the first lens housing(See figure 4, paragraphs 0035-0041).

Consider claim 8, and as applied to claim 1 above, Lee further teaches:

a camera shaft(310, figure 3) fixed to the first lens housing(See figure 4. The shaft(310) is fixed to the first lens housing(330) by protectors(337) of housing(330) which are inserted through holes(375) of shaft(310).) and spaced from the second lens housing along the first rotating axis(See figure 4. The shaft is spaced from the window(359) and camera lens portion of the second lens housing along the first rotating

axis.), the camera shaft extending along the first rotating axis so that the camera lens is rotatably attached to the terminal(The shaft(310) is fixed to the mobile terminal via hinge arm(215), paragraph 0032. The shaft(310) is attached to the hinge arm(215) and the first lens housing(330), which is attached to the second lens housing(350), which contains the camera lens(paragraph 0034). The second lens housing(350) is attached to the first lens housing(330), which is rotatably attached, paragraph 0042.).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Chambers et al. as applied to claim 1 above, and further in view of Sato et al.(Japanese Patent Application Publication 2002-281142).

Consider claim 2, and as applied to claim 1 above, Lee further teaches:

the first lens housing(330) is a cylinder(see figure 3) with an open end(see figure 3) for allowing the second lens housing(350) to be attached to the first lens housing(See figure 4, paragraphs 0032, 0033, and 0042.).

However, the combination of Lee and Chambers et al. does not explicitly teach that the first lens housing has a first semicircular opening, formed on an outer circumference thereof adjacent to the open end, and a pair of supporting pieces spaced diametrically from one another and angularly from the first semicircular opening and extending from the open end along the first rotating axis.

Sato et al. is similar to Lee in that Sato et al. teach a lens housing(16, figure 1, figure 3) extending out from the side of a mobile terminal(see figure 1). Sato et al. is

further similar in that the lens housing(16) is rotatably attached(see figure 1) so as to rotate about a first axis of rotation extending from the camera. The lens housing(16, figure 1, figure 3) of Sato et al. is likewise rotatably attached to a first lens housing(20, figure 3, paragraph 0015).

In addition to the teachings of the combination of Lee and Chambers et al., Sato et al. teach that the first lens housing(20, figure 3) has a first semicircular opening, formed on an outer circumference thereof adjacent to the open end("Slide cases" 31 and 32 each have semicircular openings formed on the outer circumferences thereof, adjacent to the open end in which the shaft(71) is inserted. These semicircular openings come together to create the first lens housing(20), see figure 3.), and a pair of supporting pieces(36) spaced diametrically from one another(Supporting pieces(36) are spaces on opposing diameters, figure 3.) and angularly from the first semicircular opening and extending from the open end along the first rotating axis(See figure 3. The supporting pieces(36) extend from the open end of the first housing(20) into the inside of the housing(20) along the first axis of rotation.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include the semicircular opening and supporting pieces taught by Sato et al. in the first housing of the device taught by the combination of Lee and Chambers et al. for the benefit of creating a compact camera housing, with few parts and simple construction, and avoiding unwanted enlargement of the terminal case(Sato et al., paragraph 0008).

9. Claim 3 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Chambers et al. in view of Sato et al. as applied to claim 2 above, and further in view of Tanaka et al.(US 6,120,379).

Consider claim 3, and as applied to claim 2 above, Lee further teaches:

the second lens housing(350) is attached to the open end of the first lens housing(330, see figures 3 and 4, paragraphs 0032-0034), wherein the second lens housing(350) has a pair of supporting pins(353) protruding outwardly from an outer circumference of the second lens housing(350, see figure 3) in opposite directions perpendicular to the first rotating axis(See figure 3. The stopper 353 has upper and lower pieces protruding out from the shaft(351) of the second lens housing(350) in opposite directions perpendicular to the first rotating axis.), so that the supporting pins(353) each are rotatably coupled with a respective one of the supporting pieces of the first lens housing(The pins(353) are rotatably coupled with the corresponding stopper(333) of the first lens housing(330), paragraph 0032-0034.), the second lens housing(350) further having a second opening("window", 359, paragraph 0034) formed on the outer circumference thereof(see figure 3) and spaced from the pair of supporting pins(353) for exposing the camera lens(paragraph 0034).

However, the combination of Lee, Chambers et al., and Sato et al. does not explicitly teach that the second lens housing is sphere shaped.

Tanaka et al. is similar in that a lens housing(30) extends perpendicular from a terminal body(20a, figure 9), said lens housing(30) rotatably attached to the terminal

body(20a) so as to rotate about an axis of rotation extending from the terminal body(20a, see figure 9, column 7, lines 1-40).

However, in addition to the teachings of the combination of Lee, Chambers et al., and Sato et al., Tanaka et al. teach that the second lens housing(30, figure 9) is a sphere(see figure 9, column 7, lines 1-40).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to make the second lens housing taught by the combination of Lee, Chambers et al., and Sato et al. a sphere as taught by Tanaka et al. for the benefit of creating an easily assembled, ergonomic design, which is inexpensive, and usable even for a child(Tanaka et al., column 2, lines 36-40).

Consider claim 4, and as applied to claim 3 above, Lee teaches that the second opening(359, figures 3-7) is positioned above the first opening as the second lens housing is rotated(As the second lens housing(350) is rotated, at a point where the second opening(359) is facing up(in reference to figure 2), the second lens opening will be positioned above the first opening.).

Consider claim 5, and as applied to claim 3 above, Lee further teaches the second lens housing(350, figure 3) further has a stopper protrusion(The pins(353) also perform the function as a stopper protrusion(353), paragraph 0034.) formed on the outer circumference thereof(see figure 3), and wherein the stopper protrusion(353) is engaged with the open end of the first lens housing(330) to restrict a rotation range of

the second lens housing relative to the first lens housing(The stopper protrusion is engaged with the first lens housing(330) via stopper(333), paragraph 0034.).

Consider claim 6, and as applied to claim 5 above, Lee does not explicitly teach that the rotation range of the second lens housing is limited to an angle of about 90 degrees.

However, Chambers et al. teach that the second lens housing is limited to an angle of about 90 degrees(see figure 3).

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Chambers et al. as applied to claim 8 above, and further in view of Masami et al.(Japanese Patent Application Publication 2002-359678).

Consider claim 9, and as applied to claim 8 above, Lee teaches of a shaft that is spaced axially from the second lens housing(see claim 8 rationale). However, the combination of Lee and Chambers et al. does not explicitly teach the camera shaft has a grooved coupling part formed on an end thereof, the grooved coupling part being configured to fittingly receive an E-ring.

Masami et al. is similar in that a lens housing is attached to the side of a phone terminal(see figures 1, 3, 4, and 5). Masami et al. is further similar in that said lens housing is rotatably attached to the terminal body so as to rotate about an axis of rotation extending from the terminal body(paragraph 0031).

In addition to the teachings of the combination of Lee and Chambers et al., Masami teaches the camera shaft has a grooved coupling part formed on an end thereof, the grooved coupling part being configured to fittingly receive an E-ring(See figures 3 and 4. The camera shaft(42) has a groove on the interior thereof, where an e-ring(73) is fitted, paragraphs 0031-0047).

Therefore, it would have been obvious to fit an E-ring into a grooved portion as taught by Masami et al. of the shaft taught by the combination of Lee and Chambers et al. for the benefit of providing friction, allowing the second lens housing to turn with the rotation of the camera, and thus avoiding having the camera lens and window pointed toward the outside of the terminal device when the photographing operation is not being performed, thereby protecting the camera from the exterior(Masami et al., paragraphs 0008, 0009 and 0013-0016).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert H. Cutler whose telephone number is (571)-270-1460. The examiner can normally be reached on Mon-Fri (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571)-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC

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SUPERVISORY PATENT EXAMINER